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AUTHOR Tannehill, Rhonda L.
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ABSTRACT

Creative thinking styles of Native American students were investigated to determine the existence of creativity as a homogeneous trait among this culture. Seventy-nine Cherokee students in grades 4 and 6, attending a small rural school in eastern Oklahoma, were administered the Torrance Tests of Creative Thinking--Figural Form A. Thirty-eight fourth graders (19 males and 19 females) were assessed. Forty-one sixth graders (27 males and 14 females) were assessed. No student was of full-blood Native American descent, although all students lived on or near tribally held lands and lived in areas dominated by Cheokee customs and culture. No response scores were analyzed to differentiate between no score responses and unattempted items. Average mean standard scores per student and per grade were calculated as well as standard scores for fluency, originality, elaboration, abstractness of title, resistance to closure, and creativity indexes. Results indicate a higher originality score among Cherokee students, but lower resistance to closure scores. The lower resistance to closure scores created a drop in the mean creativity score for most of the students. These results are consistent with other studies and suggest that creative thinking styles emphasizing originality may be strengths aiding the teaching of Native American students. (Author/RLC)

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Assessing Creativity in Native American Students Using the Torrance Tests of Creative Thinking, Figural Form A

Rhonda L. Tannehill

Mississippi State University

Running Head: ASSESSING NATIVE AMERICAN CREATIVITY

A symposium presented at the annual meeting of the Mid-South Educational Research Associatioion in Knoxville, TN

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Abstract

Creative thinking styles in Native American students was investigated to determine the existance of creativity as a homogeneous trait among this culture. Seventy-nine Cherokee students in grades four and six, attending a small, rural school in eastern Oklahoma, were administered the Torrance Tests of Creative Thinking (TTCT), Figural Form A. No response scores were analyzed to differentiate between no score responses and unattempted items. Average mean standard scores per student and per grade were calculated as well as standard scores for Fluency, Originality, Elaboration, Abstractness of Title, Resistance to Closure, and Creativity Indexes. Results indicated a higher Originality score among Cherokee students but lower Resistance to Closure scores. The lower Resistance to Closure scores created a drop in the mean creativity score for most of the students. These results are consistant with other studies and suggest that creative thinking styles emphasizing originality may be strengths aiding the teaching of Native American students.

Assessing Creativity in Native American Students

Using the Torrance Tests of Creative Thinking, Figural Form A

Multicultural education has become an important issue in American education within the last ten years, but few research studies have focused exclusively on Native American education, particularly the issue of giftedness and creativity (Daniels, 1988; Tonemah, 1987). The few studies that have been conducted have been confounded by the diversity among Native American tribes and the inability to find common elements to create comprehensive gifted and talented programs. Traditional methods of identification such as use of the Wechsler Intelligence Scales for Children-III or the Stanford-Binet, Fourth Edition, have under-identified culturally different children for placement in gifted and talented programs (Montgomery, 1990). Such placement programs focus on verbal skills and competitive classroom skills which may not be valued in the Native American cultures. It also ignores factors such as the use of imagery to transmit culture and history, emphasis on learning by watching and individual experimentation, and creativity standards which are different than those of the Anglo-Saxon culture. For the purpose of this study, it was hypothesized that Native American students would score above the mean on the Torrance Tests of Creativity and that no score responses would result primarily from answers that were acceptable culturally but would not be considered creative according to the norms table.

Investigations of creativity across cultures indicate that while many minority group members score approximately one standard deviation lower than the major culture on intelligence tests, they tend to score higher than or equal to the major culture on measures of creativity (Troiano & Bracken, 1983). Originality and Fluency scores tend to be higher for Native American students although Imagination scores may be somewhat lower.

Tonemah (1987) in cooperation with the American Indian Research and Development, Inc. (AIRD) conducted summer camps, Explorations in Creativity, for gifted and talented Native American students in different locations across the United States. Data was collected on each attendee using the Torrance

Tests of Creative Thinking (TTCT), Figural Form. The TTCT was chosen because it appeared to be more culture free/fair than other assessment instruments currently available. Results have indicated strengths in Originality.

METHOD

Subjects

Seventy-nine fourth and sixth enrolled in a predominantly Native American school in rural Oklahoma participated in this study. The school was chosen because of accessibility, but all participation by students was voluntary. Thirty-eight fourth graders were assessed. Nineteen were females and nineteen were males. Three students were of Caucasian descent and one was of Mexican/white descent. Thirty-one were of Cherokee/Caucasian descent with varying degrees of blood. One student was of Cherokee/Choctaw descent, and two were of Cherokee/Creek descent. Forty-one sixth graders participated in the study. Fourteen were females and twenty-seven were males. Eleven were Caucasian; one was Mexican/Cherokee; one was Cherokee/Choctaw; one was Cherokee/Afro-american; one was Cherokee/Creek; and twenty-six were Cherokee/Caucasian. No student was of full-blood Native American descent although all students live on or near tribally held lands and live in areas dominated by Cherokee customs and culture.

Instrument

The Torrance Tests of Creative Thinking (TTCT), Figural Form A, designed for persons third grade to adult, is an individually administered creativity test comprised of three timed pencil and paper activities. Each activity presents stimuli designed to evoke creative responses drawn by the respondent. The nonverbal responses are scored for Fluency, Originality, Abstractness of Titles, Elaboration, and Resistance to Closure. A Creativity Index may be computed by use of the mean creativity score and the checklist of creative strengths. The TTCT has an inter/intra scorer coefficients above .90. Test-retest reliability ranges from .50 to .90. Content validity has been established as well as predictive validity from longitudinal studies conducted by Torrance (1990).

RESULTS AND DISCUSSION

Standard scores were determined for Originality, Fluency, Abstractness of Title, Elaboration, and Resistance to Closure. A mean score and a Creativity Index were then calculated. No score responses were counted in the categories of expiration of time, response not scoreable, and items skipped.

The first no response category was response not scoreable or no score. Responses were included as no score when the item was listed as a zero response in the scoring guide or the item was abstract and could not be scored. The sixth grade had a total of 395 no score responses with a mean of 9.634. The fourth grade had a total of 570 no score responses with a mean of 15. Common no score responses were faces and geometric designs. Other causes of no score responses are repetition of a response (inflexibility) and creation of a response without use of the prompts.

Insert Table One

The time press or expiration of time no response category was also examined. Items are not completed because of an inability to produce a quick flow of ideas. The sixth grade had a higher mean time no response than did the fourth grade ($\underline{m}$=13.219; $\underline{m}$=9.5, respectively). Activity Three for both grades produced more no response items.

Items may be skipped because of an inability to develop an idea quickly from a prompt. The sixth grade had a total of 48 skips with a mean of 1.171. The fourth grade had a total of 18 skips with a mean of 0.474.

The factor that consistently had higher scores was that of Originality. Students in both grades tended to score above the norm group mean (100). The lowest scoring factor was that of Resistance to Closure. Students in both grades tended to score zero on this factor.

Although the fourth and sixth grade students scored above the norm group mean in Originality, total mean scores for both grades was at or below the

mean. Factors that may contribute to this may be the lack of Elaboration and Resistance to Closure in the creative works of Native Americans. When viewed in context of current and past creative works in art and music, creativity patterns appear to be consistent with existing examples.

When no response items are viewed in this same context, similar conclusions may be drawn. Although imagery and creative thinking may be present in Native American works, it does not manifest itself in the same pattern as measured in the Torrance Tests of Creative Thinking. Even so, use of the TTCT may enhance what is currently known about creativity in Native American cultures.

Table 1

No Response Scores

	Grades	
No Response	Sixth	Fourth
No score	T=395, m=9.634	T=570, m=15
Time	T=542, m=13.219	T=361, m=9.5
Skip	T= 48, m=1.171	T= 18, m=0.474

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